



Natural Disaster Assistance for Missouri Citizens

Disaster-Related Animal Production Mortalities

Emergency Procedures

1-800-361-4827

Department of Natural Resources fact sheet

3/2006

During a disaster the highest priority is protection of human life and safety. As soon as the immediate threat is over, animal producers must address the disaster's effects on their animals and property. Live animals should be provided humane treatment and dead animals must be disposed of in compliance with state law. For the disposal law, see www.moga.mo.gov/statutes/c200-299/2690000020.htm or call the Missouri Department of Agriculture's Division of Animal Health at (573) 751-3377.

Estimating Site Damage

Begin by viewing the site and making a written self-estimate of damage. This will help in talking to agencies and organizations and making cleanup plans. Document conditions by photographing damage at the earliest opportunity and then identify the following:

- Number of animals originally on site;
- Approximate number and size of dead animals;
- Uninjured animals and their needs for food, water and protection;
- Animals that remain unaccounted;
- Condition of confinement buildings or enclosures.

Cleanup

Move to safety and find housing for uninjured animals either on your property or with the help of your integrator company. Contact your **county USDA Natural Resources Conservation Service office**, usually located in the county seat, to determine what assistance is available.

Dispose of dead animals within 24 hours of death by the most practical means available among the following. This list is in order of desirability with rendering being most desirable and burial least desirable:

- Processing at a rendering plant. Visit www.mda.mo.gov/Animals/rendercomp.htm or call (573) 751-3377 to request information on licensed companies. Some integrator companies have their own rendering in conjunction with processing plants;
- Composting as recommended by University of Missouri Extension;
- Landfill disposal. Call the landfill first to determine whether it accepts large quantities of dead animals. For a complete listing of landfills, visit www.dnr.mo.gov/env/swmp/facilities/sanlist.htm.



- or call the Department of Natural Resources' Solid Waste Management program at 1-800-361-4827 or (573) 751-5401 to obtain phone numbers of landfills in the area;
- Pre-existing University of Missouri Extension service-designed agricultural incinerator or Department of Natural Resources permitted commercial incinerator;
- On-site burial following state law's standard loading limitations. Call your Department of Natural Resources Regional office for information on loading limitations in your area.

Compost and Burial Site Selection

Do not bury or compost animals in sinkholes, ravines, caves, mines, low-lying areas subject to flooding, ditches or at the base of a hill. Follow the state law setback distances, using the greatest applicable distance:

- 100 feet from surface water such as ponds, streams and lakes
- 300 feet from springs, losing streams, wells including unused and abandoned ones neighboring residences, surface drinking water intakes and public water supply lakes
- 50 feet from property lines

Draw a diagram of the property showing all applicable setbacks. Do not bury or compost in sinkholes, ravines, caves, mines, low-lying areas subject to flooding, ditches, or at the base of a hill. Attempt to follow or exceed all setbacks above.

Add neighboring property features requiring setbacks and ask questions of the landowners, if needed. Observe the proper distance from water wells and residences is crucial. Draw a line or radius showing the setback distance from these features on the neighbors' properties on the property diagram and eliminate these from consideration.

Look at a topographic map, which may be obtained from the Department of Natural Resources' Division of Geology and Land Survey by calling 1-800-361-4827 or (573) 368-2125 or faxing (573) 368-2111, or visit topozone.com. The USDA Natural Resources Conservation Service office, county commissioners' or the county surveyor's office may have one available locally. Look at the proposed site property and adjoining properties. Questionable areas that may be sinkholes often are identifiable on topographic maps and low-lying areas and surface water will be identified and should be avoided following the applicable setback.

Identify the highest elevations and flatter areas of the property from the topographic map. A ridge area normally will be farthest from surface water features and should be one of the first areas considered for the burial or compost site. Flat to gently sloping areas are most desirable, although somewhat sloping land can be used if it is free of other problems.

Check the soil survey book for soil type and thickness of soil above bedrock. A county soil survey book should be available at the USDA Natural Resources Conservation Service office in the county seat, or contact the Department of Natural Resources' Soil and Water Conservation Program Soil Scientists Unit at 1-800-361-4827 or (573) 526-1079.

Clay-textured soils are desirable, including heavier silty clay loam, clay loam, sandy clay, silty clay and clay. Soils with sandy textures or large amounts of gravel are not desirable.

Burial sites should have at least 2 feet of clay-textured soil material beneath the trench. Look for the areas of the property that have the deepest soil but avoid flood-prone areas. A 6-foot-deep trench requires 8 feet of soil depth and a 4-foot-deep trench requires 6 feet of soil depth.

If a 6-foot-deep trench would expose bedrock everywhere on the property, a shallower trench of 3 to 4 feet depth may be necessary. In this case, a single layer of large animals could be deposited in the trench.

Emergency Composting Structures

If an empty litter stacking shed is available, it makes a good temporary composter. In general, if no shed is available, emergency dead animal composting units should be constructed with the following in mind:

- They should hold dead animals in long narrow windrow piles no higher than 6 feet and no wider than 10 to 12 feet by any length necessary;
- They should have three sides enclosed with large round hay bales or double-stacked square bales;
- The bottom and part of the sides should be lined with plastic sheeting;
- Approximately one foot of a dry absorbent material such as sawdust, tree leaves, straw or spoiled hay should be placed on top of the plastic;
- Dead animals and six-inch layers of absorbent material should be stacked in alternating layers to reach 5 feet in height. Dry poultry litter may be used in inner layers instead of absorbent material, if available. If disposing of large animals, only one or two layers might be possible, and extra absorbent material may be needed at the bottom.
- Cap the pile with a 6-inch layer of dry absorbent material.

Further guidance for building composting units according to University of Missouri Extension service designs is available at muextension.missouri.edu/explore/envqual/wq0351.htm, muextension.missouri.edu/xplor/envqual/wq0205.htm and muextension.missouri.edu/xplor/envqual/wq0211.htm.

Burial Guidelines

- Dig a trench no deeper than 6 feet with earth-moving equipment to comply with the state statute. Stockpile the topsoil separately.
- If soil depth is not adequate to dig 6 feet and leave 2 feet of clay soil under the trench, limit the trench depth to 3 to 4 feet deep. Try always to have at least 2 feet of clay soil under the trench.
- Keep the bottom of trenches as flat as possible. One end of the trench should be sloped so vehicles can drive in to deposit animals. Attempt to “daylight” one end of the trench if possible. A daylighted trench is one that has the bottom of one end terminating at existing ground level.
- If the site is sloping, run the trench across the slope to minimize the probability of erosion. Make the uphill side of the trench no more than 6 feet deep and the downhill side less than 6 feet.
- If an underground void such as a sinkhole, rock crevice, cave or manmade chamber such as a cistern is encountered while digging, do not use that area.
- To prevent trench sides from collapsing, slope or bench any excavation face more than 4 feet high and take any other necessary safety precautions.
- Deposit animals to within about 1 foot of the surface. Pierce body cavities of large animals that are more than 150 pounds as they are deposited to minimize bloating and comply with the state statute.

- Cover the animals with all of the excavated soil so that a mound is formed and the soil cover over the animals is at least 30 inches thick to comply with the state statute. Pack the cover material by running heavy equipment over it several times.
- Place the topsoil on the surface of the mound and spread it. Seed with a perennial grass as soon as possible. This will prevent eroded areas from forming and will help prevent rainwater from infiltrating the site.

Contact the Missouri Department of Agriculture's Division of Animal Health and a Missouri Department of Natural Resources' regional office for further assistance.

Helpful Contacts

- **Your integrator company.** If applicable, these companies may be helpful in capturing live animals and finding locations where these animals may be relocated.
- **The Department of Agriculture's State Veterinarian's Office.** Visit www.mda.mo.gov/WhoWeAre/ah_div.htm or call (573) 751-5608, particularly if buildings are unsafe to enter, which might make it difficult to comply with the state statute regarding disposal in a timely manner, or for situations that require disposal of large numbers of animals.
- **Your region's Department of Natural Resources regional office** for help with disposal questions. Visit www.dnr.mo.gov/regions/regions.htm or call 1-800-361-4827 to find out which regional office serves your area.
- **Your county sheriff or other law authorities.** They can assist in protecting animals and belongings.

For More Information Contact

Department of Natural Resources
PO Box 176
Jefferson City, MO 65102-0176
1-800-361-4827 or (573) 751-3443
www.dnr.mo.gov